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NEWS	5	DEC 14	2006 MeSH terms loaded for MEDLINE file segment of TOXCENTER
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NEWS	7	DEC 21	IPC search and display fields enhanced in CA/CAplus with the IPC reform
NEWS	8	DEC 23	New IPC8 SEARCH, DISPLAY, and SELECT fields in USPATFULL/ USPAT2
NEWS	9	JAN 13	IPC 8 searching in IFIPAT, IFIUDB, and IFICDB
NEWS	10	JAN 13	New IPC 8 SEARCH, DISPLAY, and SELECT enhancements added to INPADOC
NEWS	11	JAN 17	Pre-1988 INPI data added to MARPAT
NEWS	12	JAN 17	IPC 8 in the WPI family of databases including WPIFV
NEWS	13	JAN 30	Saved answer limit increased
NEWS	14	JAN 31	Monthly current-awareness alert (SDI) frequency added to TULSA

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CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
AND CURRENT DISCOVER FILE IS DATED 19 DECEMBER 2005.
V8.0 USERS CAN OBTAIN THE UPGRADE TO V8.01 AT
http://download.cas.org/express/v8.0-Discover/

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FILE COVERS 1907 - 5 Feb 2006 VOL 144 ISS 7
FILE LAST UPDATED: 3 Feb 2006 (20060203/ED)


```
=> s biochip?(s)multiplex?
          3867 BIOCHIP?
         16369 MULTIPLEX?
L1          33 BIOCHIP?(S)MULTIPLEX?

=> s l1 and label?(p)electrical(p)contact?
        427571 LABEL?
        118233 ELECTRICAL
            19 ELECTRICALS
        118251 ELECTRICAL
                  (ELECTRICAL OR ELECTRICALS)
       1016238 ELEC
           384 ELECS
       1016331 ELEC
                  (ELEC OR ELECS)
       1043562 ELECTRICAL
                  (ELECTRICAL OR ELEC)
        607835 CONTACT?
           136 LABEL?(P)ELECTRICAL(P)CONTACT?
L2            0 L1 AND LABEL?(P)ELECTRICAL(P)CONTACT?

=> s l1 and etm?
          9320 ETM?
L3            0 L1 AND ETM?

=> s l1 and electron(s)transfer(s)moiet?
       1326993 ELECTRON
        256442 ELECTRONS
       1407145 ELECTRON
                  (ELECTRON OR ELECTRONS)
        758669 TRANSFER
         24626 TRANSFERS
        770678 TRANSFER
                  (TRANSFER OR TRANSFERS)
        148174 MOIET?
          1121 ELECTRON(S)TRANSFER(S)MOIET?
L4            0 L1 AND ELECTRON(S)TRANSFER(S)MOIET?

=> s l1 and electron(p)transfer(p)moiet?
       1326993 ELECTRON
        256442 ELECTRONS
       1407145 ELECTRON
                  (ELECTRON OR ELECTRONS)
        758669 TRANSFER
         24626 TRANSFERS
        770678 TRANSFER
                  (TRANSFER OR TRANSFERS)
        148174 MOIET?
          3007 ELECTRON(P)TRANSFER(P)MOIET?
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L5            0 L1 AND ELECTRON(P)TRANSFER(P)MOIET?

=> s l1 and probe(p)hybridiz?(p)intercalat?
        219128 PROBE
        109981 PROBES
        290122 PROBE
                 (PROBE OR PROBES)
        168060 HYBRIDIZ?
         43261 INTERCALAT?
           201 PROBE(P)HYBRIDIZ?(P)INTERCALAT?
L6            0 L1 AND PROBE(P)HYBRIDIZ?(P)INTERCALAT?

=> display l1 1-33 ibib abs

L1   ANSWER 1 OF 33  CAPLUS  COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER:         2005:1175132  CAPLUS
DOCUMENT NUMBER:          143:418562
TITLE:                    Automated, programmable, high throughput, multiplexed
                          assay system for cellular and biological assays
INVENTOR(S):              Li, Guann-Pyng; Bachman, Mark; Allbritton, Nancy;
                          Sims, Chris; Jensen-McMullin, Cynthia
PATENT ASSIGNEE(S):       The Regents of the University of California, USA
SOURCE:                   U.S. Pat. Appl. Publ., 12 pp.
                          CODEN: USXXCO
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.          DATE
     ---------------      ----   --------    --------------------     --------
     US 2005244955         A1    20051103    US 2005-112407           20050421
PRIORITY APPLN. INFO.:                       US 2004-564529P      P   20040421
AB   Systems and methods are providing for performing high-throughput,
     programmable, multiplexed assays of biol., chemical or biochem. systems.
     Preferably, a micro-pallet includes a small flat surface designed for
     single adherent cells to plate, a cell plating region designed to protect
     the cells, and shaping designed to enable or improve flow-through
     operation.  The micro-pallet is preferably patterned in a readily
     identifiable manner and sized to accommodate a single cell to which it is
     comparable in size.  Each cell thus has its own mobile surface.  The cell
     can be transported from place to place and be directed into a system
     similar to a flow cytometer.  Since, since the surface itself may be
     tagged (e.g., a bar code), multiple cells of different origin and history
     may be placed into the same experiment allowing multiplexed expts. to be
     performed.

L1   ANSWER 2 OF 33  CAPLUS  COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER:         2005:1078083  CAPLUS
DOCUMENT NUMBER:          143:321794
TITLE:                    Universal shotgun assay
INVENTOR(S):              Spain, Michael D.; Chandler, Mark B.
PATENT ASSIGNEE(S):       Rules-Based Medicine, Inc., USA
SOURCE:                   U.S. Pat. Appl. Publ., 18 pp.
                          CODEN: USXXCO
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.          DATE
     ---------------      ----   --------    --------------------     --------
     US 2005221363         A1    20051006    US 2005-94366            20050331
     WO 2005094381         A2    20051013    WO 2005-US10932          20050331
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
             LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
             NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM,
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SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT,
RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
MR, NE, SN, TD, TG
PRIORITY APPLN. INFO.: US 2004-558136P P 20040401
AB A method for the multiplexed diagnosis of a plurality of different biomols. in a fluid sample substantially simultaneously is provided. In accordance with a method of the invention, a substantial fraction of biomols. in a fluid sample are complexed with a universal label and a secondary labeling reagent. Flow cytometric measurements may be used to identify and quantify, in real-time, by detecting the secondary reagent and universal label present in any of said complexes. The inventive technol. enables the simultaneous, and automated, detection and interpretation of multiple biomols. while also reducing the cost of performing diagnostic and genetic assays.

L1 ANSWER 3 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:697033 CAPLUS
DOCUMENT NUMBER: 143:187905
TITLE: Method for geno- and pathotyping Pseudomonas aeruginosa
INVENTOR(S): Wagner, Gerd; Wiehlmann, Lutz; Tuemmler, Burkhard
PATENT ASSIGNEE(S): Clondiag Chip Technologies G.m.b.H., Germany
SOURCE: PCT Int. Appl., 105 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005071108	A2	20050804	WO 2005-EP751	20050126
WO 2005071108	A3	20051124		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, SM				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 102004003860	A1	20050818	DE 2004-102004003860	20040126

PRIORITY APPLN. INFO.: DE 2004-102004003860A 20040126
AB The invention relates to a method for geno- and pathotyping Pseudomonas aeruginosa-type bacteria by means of hybridization assays on a biochip or an micro matrix. Specific oligonucleotide probes usable for a detection method and biochips provided therewith are also disclosed.

L1 ANSWER 4 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:612487 CAPLUS
DOCUMENT NUMBER: 143:127822
TITLE: Detecting and typing of human papillomavirus using **multiplex** PCR, primer extension reaction and **biochip** hybridization
INVENTOR(S): Ke, Song-Hua; Hudspeth, Richard Loren; Mahant, Vijay K.
PATENT ASSIGNEE(S): Autogenomics, Inc., USA
SOURCE: PCT Int. Appl., 82 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005064020	A1	20050714	WO 2004-US43499	20041222
WO 2005064020	B1	20050915		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2003-532681P P 20031223
US 2004-556737P P 20040326

AB The invention provides for the use of **multiplex** PCR and primer extension reaction followed by **biochip** hybridization for detecting and typing various human papillomavirus (HPV) in samples. The invention also provides a diagnostic kit to be used in said amplification and hybridization which comprises: (a) HPV-specific amplification and extension primers, (b) HPV-specific capture probes and (c) a DNA-dependent DNA polymerase. The invention relates that said extension primers include a tag that hybridizes with a capture probe on a biochip, wherein the tag is distinct from the target nucleic acid sequence to be analyzed. The invention further provides the sequences for said HPV-specific primers that can be used in detecting and typing various HPV in samples. The disclosed materials and method were used in genotyping HPV found in human pap smears. The disclosed materials and method could potentially be used to identify high-risk HPV genotypes associated with the development of cervical cancer.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 5 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:132034 CAPLUS
DOCUMENT NUMBER: 143:93220
TITLE: Protein biochips: the calm before the storm
AUTHOR(S): Bodovitz, Steven; Joos, Thomas; Bachmann, Jutta
CORPORATE SOURCE: BioPerspectives, San Francisco, CA, 94109, USA
SOURCE: Drug Discovery Today (2005), 10(4), 283-287
CODEN: DDTOFS; ISSN: 1359-6446
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review. The growth of protein biochip technol. is on a different trajectory than other drug discovery and development technologies, such as DNA sequencing and high throughput screening, where output per experiment has grown exponentially. By contrast, experimentation with protein **biochips** immediately hit barriers in output because of the limited availability of content and the challenges of running biochem. expts. of the surface of a **biochip**. nevertheless, the industry has been making significant progress recently by launching new platforms with focused content and new **multiplexed** biochem. assays. However, this success might only represent the calm before the storm. Over the long-term, protein biochips have the potential to change the drug discovery and development process at the mol. level. The output and throughput of protein biochips could enable researchers to change from the traditional model of one target-one drug to a new model of evaluating one or more potential drugs against a panel of relevant mol. targets from a complex disease state.

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 6 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:17484 CAPLUS
DOCUMENT NUMBER: 142:234043

TITLE: Ultrasensitive detection of DNA hybridization using carbon nanotube field-effect transistors
AUTHOR(S): Maehashi, Kenzo; Matsumoto, Kazuhiko; Kerman, Kagan; Takamura, Yuzuru; Tamiya, Eiichi
CORPORATE SOURCE: The Institute of Scientific and Industrial Research, Osaka University, Osaka, 567-0047, Japan
SOURCE: Japanese Journal of Applied Physics, Part 2: Letters & Express Letters (2004), 43(12A), L1558-L1560
CODEN: JAPLD8
PUBLISHER: Japan Society of Applied Physics
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We have sensitively detected DNA hybridization using carbon nanotube field-effect transistors (CNTFETs) in real time. Amino modified peptide nucleic acid (PNA) oligonucleotides at 5' end were covalently immobilized onto the Au surface of the back gate. For 11-mer PNA oligonucleotide probe, full-complementary DNA with concentration as low as 6.8 fM solution could be effectively detected. Our CNTFET-based **biochip** is a promising candidate for the development of an integrated, high-throughput, **multiplexed** DNA biosensor for medical, forensic and environmental diagnostics.

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 7 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:803882 CAPLUS
DOCUMENT NUMBER: 141:256943
TITLE: Shallow multi-well plastic chip for thermal multiplexing
INVENTOR(S): Miao, Yubo; Chen, Yu; Lim, Tit Meng; Heng, Chew Kiat
PATENT ASSIGNEE(S): Agency for Science, Technology and Research, Singapore
SOURCE: U.S. Pat. Appl. Publ., 10 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004191896	A1	20040930	US 2003-613599	20030703
WO 2004085134	A1	20041007	WO 2004-SG67	20040323

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2003-456929P P 20030324
US 2003-613599 A 20030703

AB Disposable units in current use for performing PCR are limited by their heat block ramping rates and by the thermal diffusion delay time through the plastic wall as well as by the sample itself. This limitation has been overcome by forming a disposable plastic chip using a simple deformation process wherein one or more plastic sheets are caused, through hydrostatic pressure, to conform to the surface of a suitable mold. After a given disposable chip has been filled with liquid samples, it is brought into close contact with an array of heating blocks that seals each sample within its own chamber, allowing each sample to then be heat treated as desired.

L1 ANSWER 8 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:703289 CAPLUS
DOCUMENT NUMBER: 141:376487

TITLE: Double-chip protein arrays: force-based multiplex sandwich immunoassays with increased specificity
AUTHOR(S): Blank, Kerstin; Lankenau, Andreas; Mai, Thao; Schiffmann, Susanne; Gilbert, Ilka; Hirler, Siegfried; Albrecht, Christian; Benoit, Martin; Gaub, Hermann E.; Clausen-Schaumann, Hauke
CORPORATE SOURCE: Nanotype GmbH, Graefelfing, 82166, Germany
SOURCE: Analytical and Bioanalytical Chemistry (2004), 379(7-8), 974-981
CODEN: ABCNBP; ISSN: 1618-2642
PUBLISHER: Springer GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Protein assays provide direct access to biol. and pharmacol. relevant information. To obtain a maximum of information from the very smallest amts. of complex biol. samples, highly multiplexed protein assays are needed. However, at present, cross-reactions of binding reagents restrict the use of such assays to selected cases and severely limit the potential for up-scaling the technol. Here we describe a double-chip format, which can effectively overcome this specificity problem for sandwich immunoassays. This format consists of a capture array and a reference array with fluorescent labeled detection antibodies coupled to the reference array via DNA duplexes. This format allows for the local application of the labeled detection antibodies onto their corresponding specific spots on the capture array. Here we show that this double-chip format allows for the use of cross-reactive antibodies without generating false pos. signals, and an assay for the parallel detection of seven different cytokines was set up. Even without further optimization, the dynamic range and the limit of detection for interleukin 8 were found to be comparable to those obtained with other types of multiplexed sandwich immunoassays.

REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 9 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:497057 CAPLUS
DOCUMENT NUMBER: 141:389368
TITLE: Use of the DNA Flow-Thru Chip, a three-dimensional biochip, for typing and subtyping of influenza viruses
AUTHOR(S): Kessler, Nicole; Ferraris, Olivier; Palmer, Kevin; Marsh, Wayne; Steel, Adam
CORPORATE SOURCE: Laboratoire de Virologie, WHO National Influenza Centre, Universite Claude Bernard Lyon 1, Lyon, 69373/08, Fr.
SOURCE: Journal of Clinical Microbiology (2004), 42(5), 2173-2185
CODEN: JCMIDW; ISSN: 0095-1137
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Influenza A viruses, which are further subtyped on the basis of antigenic differences in external hemagglutinin and neuraminidase glycoproteins, and influenza B viruses are prominent among the viral causes of respiratory diseases and can cause a wide spectrum of illness. Each year these viruses are responsible for recurrent epidemics, frequently in association with genetic variation. There is a requirement for sensitive and rapid diagnostic techniques in order to improve both the diagnosis of infections and the quality of surveillance systems. A new three-dimensional biochip platform (Flow-Thru Chip; MetriGenix) was used to develop a rapid and reliable mol. method for the typing and subtyping of influenza viruses. Oligonucleotide probes immobilized in microchannels of a silicon wafer were selected to recognize multiple fragments of the influenza A virus matrix protein gene; the influenza B virus NS gene; the H1, H3, and H5 hemagglutinin genes; and the N1 and N2 neuraminidase genes. Biotinylated amplicons resulting from either multiplex or random reverse transcription-PCR were hybridized to arrayed oligonucleotides on the influenza virus chip before they were stained with horseradish peroxidase-streptavidin and were imaged by use of a chemiluminescent substrate. The chip anal. procedure, from the time of pipetting of the sample into the chip cartridge to the time of anal. of the results, was

performed in less than 5 h. The random PCR exhibited a higher level of performance than the multiplex PCR in terms of the specificity of product hybridization to the influenza virus chip. Anal. of influenza A viruses (H1N1, H3N2, H1N2, and H5N1) and influenza B viruses showed that this microarray-based method is capable of the rapid and unambiguous identification of all types and subtypes of viruses by use of random PCR products. The redundancy of the probes designed for each gene selected yielded an addnl. criterion of confidence for the subtyping of viruses which are known for antigenic variations in some of their components.
REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 10 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:138080 CAPLUS
DOCUMENT NUMBER: 140:299880
TITLE: Miniature biochip system for detection of Escherichia coli O157:H7 based on antibody-immobilized capillary reactors and enzyme-linked immunosorbent assay
AUTHOR(S): Song, Joon Myong; Vo-Dinh, Tuan
CORPORATE SOURCE: Life Sciences Division, Advanced Biomedical Science and Technology Group, Oak Ridge National Laboratory, Oak Ridge, TN, 37831-6101, USA
SOURCE: Analytica Chimica Acta (2004), 507(1), 115-121
CODEN: ACACAM; ISSN: 0003-2670
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB In this work, we report Escherichia coli O157:H7 detection using antibody-immobilized capillary reactors, ELISA, and a biochip system. ELISA selective immunol. method to detect pathogenic bacteria. ELISA is also directly adaptable to a miniature biochip system that utilizes conventional sample platforms such as polymer membranes and glass. The antibody-immobilized capillary reactor is a very attractive sample platform for ELISA because of its low cost, compactness, reuse, and ease of regeneration. Moreover, an array of capillary reactors can provide high-throughput ELISA. In this report, we describe the use of an array of antibody-immobilized capillary reactors for **multiplex** detection of E. coli O157:H7 in our miniature **biochip** system. Side-entry laser beam irradiation to an array of capillary reactors contributes significantly to miniaturized optical configuration for this biochip system. The detection limits of E. coli O157:H7 using the ELISA and Cy5 label-based immunoassays were determined to be 3 and 230 cells, resp. This system shows capability to simultaneously monitor multifunctional immunoassay and high sensitive detection of E. coli O157:H7.
REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 11 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:134766 CAPLUS
DOCUMENT NUMBER: 140:282382
TITLE: method providing simultaneous **multiplex** PCR DNA amplification and anal. of the amplified sequences directly on a hydrogel-based **biochip**
INVENTOR(S): Mirzabekov, A. D.; Tillib, S. V.; Strizhkov, B. N.
PATENT ASSIGNEE(S): Institut Molekulyarnoi Biologii im. V. A. Engel'gardta RAN, Russia
SOURCE: Russ., No pp. given
CODEN: RUXXE7
DOCUMENT TYPE: Patent
LANGUAGE: Russian
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
RU 2218414	C2	20031210	RU 2001-112429	20010504

PRIORITY APPLN. INFO.: RU 2001-112429 20010504
AB The invention relates to a new method for nucleotide sequence anal. using oligonucleotides immobilized in individual hydrogel cells of the biochip.

This method allows to carry out simultaneously the amplification of sequences to be tested with the anal. of the amplified products inside individual cells of a hydrogel-based biochip. For this purpose a variety of specific sets of primers, each immobilized in individual hydrogel cells. Each of these cells along with standard constantly immobilized primers comprise a definite amount of modified primers that can be released, activated or inactivated. The immobilized modified primer can be chemical or enzymically released from the cell of the biochip. 5'-End of modified primers can comprise (1) an oligoribonucleotide sequence rU-rU-rC that is cleaved by RNase A; (2) a [-CH(OH)-CH(OH)-] group that can be cleaved with sodium periodate; (3) an oligo(dU) sequence and uracil can be cleaved by DNA uracil glycosidase. Primers to be inactivated comprise rU-rU, rU-rU-rC and [-CH(OH)-CH(OH)-] groups not at the 5'-end but as an inner fragment, that can also be cleaved by the agents stated above. Each modified primer to be activated has to have the phosphate blocking group removed by alkaline phosphatase. Enzymic reactions are simultaneously carried out in individual hydrogel cells that are covered and isolated from each other by mineral oil. Fluorescence intensity after amplification and hybridization on the biochip was monitored using a CCD equiped fluorescence microscope. The novel method provides the possibility for simultaneous anal. of a multiplicity of different nucleotide sequences. The invention can be used in scientific-research and medicinal practice.

L1 ANSWER 12 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:1011271 CAPLUS
DOCUMENT NUMBER: 140:159942
TITLE: Electrical detection of viral DNA using ultramicroelectrode arrays
AUTHOR(S): Nebling, Eric; Grunwald, Thomas; Albers, Joerg; Schaefer, Peter; Hintsche, Rainer
CORPORATE SOURCE: Fraunhofer Institute for Silicon Technology (ISIT), Itzehoe, D-25524, Germany
SOURCE: Analytical Chemistry (2004), 76(3), 689-696
CODEN: ANCHAM; ISSN: 0003-2700
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A fully elec. array for voltammetric detection of redox mols. produced by enzyme-labeled affinity binding complexes is shown. The electronic detection is based on ultramicroelectrode arrays manufactured in silicon technol. The 200-μm circular array positions have 800-nm-wide interdigitated gold ultramicroelectrodes embedded in silicon dioxide. Immobilization of oligonucleotide capture probes onto the gold electrodes surfaces is accomplished via thiol-gold self-assembling. Spatial separation of probes at different array positions is controlled by polymeric rings around each array position. The affinity bound complexes are labeled with alkaline phosphatase, which converts the electrochem. inactive substrate 4-aminophenyl phosphate into the active 4-hydroxyaniline (HA). The nanoscaled electrodes are used to perform a sensitive detection of enzyme activity by signal enhancing redox recycling of HA resulting in local and position-specific current signals. Multiplexing and serial readout is realized using a CMOS ASIC module and a computer-controlled multichannel potentiostat. The principle of the silicon-based elec. **biochip** array is shown for different exptl. setups and for the detection of virus DNA in real unpurified **multiplex** PCR samples. The fast and quant. electronic multicomponent anal. for all kinds of affinity assays is robust and particle tolerant.
REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 13 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:490475 CAPLUS
DOCUMENT NUMBER: 139:84181
TITLE: Detection of pathogens in food by biochip analysis
AUTHOR(S): Busch, U.; Knoll-Sauer, M.; Muehlbauer, B.; Zucker, R.; Beck, H.; Huber, I.
CORPORATE SOURCE: Bayerisches Landesamt fuer Gesundheit und Lebensmittelsicherheit (LGL), Oberschleissheim, D-85762, Germany

SOURCE: Fleischwirtschaft (2003), 83(4), 111-114
CODEN: FLEIA8; ISSN: 0015-363X
PUBLISHER: Deutscher Fachverlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: German
AB The NUTRI-Chip kit is a specific, fast and reliable test for the detection of foodborne pathogens. Its approved validity for the confirmation of cultural microbiol. testing was demonstrated in a validation study. Combining **multiplex** PCR with subsequent **biochip** -hybridization to specific probes allows trustworthy detection of pathogens. Internal amplification controls exclude false-neg. results of the PCR-reaction. The PCR-reaction combined with the specific hybridization to oligonucleotide probes fulfills the legal requirements for the collection of official methods under Article 35 of the German federal foodstuffs act - food anal.

L1 ANSWER 14 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:72920 CAPLUS
DOCUMENT NUMBER: 138:298291
TITLE: Simultaneous detection of the tumor suppressor FHIT gene and protein using the multi-functional biochip
AUTHOR(S): Askari, Minoo D. F.; Miller, Gordon H.; Vo-Dinh, Tuan
CORPORATE SOURCE: Advanced Monitoring Development Group, Life Sciences Division, Graduate School of Biomedical Sciences, Oak Ridge National Laboratory + University of Tennessee/Oak Ridge, Oak Ridge, TN, 37831-6101, USA
SOURCE: Cancer Detection and Prevention (2002), 26(5), 331-342
CODEN: CDPRD4; ISSN: 0361-090X
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The tumor suppressor gene, fragile histidine triad (FHIT), encompasses the most common human chromosomal fragile site, at 3p14.2. Detection of FHIT gene is important in cancer diagnostics since its alterations have been associated with several human cancers. A unique multi-functional biochip for simultaneous detection of FHIT DNA and FHIT protein on the same platform was applied. The design of the biochip is based on miniaturization of photodiodes, where functioning of multiple optical sensing elements, amplifiers, discriminators, and logic circuitry are integrated on a single IC board. Performance of biochip is based on biomol. recognition processes using both DNA and protein bioreceptors, Cy5-labeled probes and laser excitation. Application of **biochip** for concurrent detection of various immobilized target DNA and protein mols. and **multiplex** of DNA and protein on the same microarray was accomplished. Linearity of biochip for quant. measurements was demonstrated. Results demonstrated utility of this multi-functional biochip as a useful detection technol. with applications in biol. and clin. labs.
REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 15 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:462961 CAPLUS
DOCUMENT NUMBER: 137:123725
TITLE: Array-based multiplexed screening and quantitation of human cytokines and chemokines
AUTHOR(S): Wang, Cheng C.; Huang, Ruo-Pan; Sommer, Martin; Lisoukov, Henry; Huang, Ruochun; Lin, Ying; Miller, Thomas; Burke, Jocelyn
CORPORATE SOURCE: PerkinElmer Life Sciences, Meriden, CT, 06450, USA
SOURCE: Journal of Proteome Research (2002), 1(4), 337-343
CODEN: JPROBS; ISSN: 1535-3893
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB HydroGel-coated slide is a porous substrate based on a polymer matrix that provides a three-dimensional hydrophilic environment similar to free solution suitable for biomol. interactions. This substrate has been used to develop fluorescence-based **multiplexed** cytokine immunoassays.

Forty-three monoclonal antibodies (mAb) of cytokines and chemokines were printed at a volume of 350 pL per spot using a Packard **BioChip** Arrayer. For each probe, four replicates were printed at a pitch of 500 μm in the layout of a 13 + 16 pattern on a 12 + 12 mm2 HydroGel pad. Cytokines and chemokines that are captured by the arrayed mAbs are detected by using another biotinylated mAb, following by the addition of a Texas Red-conjugated streptavidin. The fluorescent images of arrays were recorded using a Packard ScanArray 5000 confocal slide scanner and quantitated using Packard QuantArray software. Expts. demonstrated that 43 cytokines and chemokines could be simultaneously screened and quantitated in conditioned culture media, cell lysates, and human plasma. Using this chip, we have examined cytokine expression in breast cancer cells and identified the chemokines associated with human cervical cancers.

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 16 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:449903 CAPLUS
DOCUMENT NUMBER: 137:32056
TITLE: Chromatographic separation coupled with mass spectrometry for quantitative detection of prostate specific membrane antigen and other prostatic markers
INVENTOR(S): Wright, George L., Jr.
PATENT ASSIGNEE(S): Eastern Virginia Medical School, USA
SOURCE: PCT Int. Appl., 82 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2002046448	A2	20020613	WO 2001-US43424		20011116
WO 2002046448	A3	20031211			
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW					
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG					
CA 2428011	AA	20020613	CA 2001-2428011		20011116
AU 2002043221	A5	20020618	AU 2002-43221		20011116
EP 1390523	A2	20040225	EP 2001-989101		20011116
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR					
CN 1537170	A	20041013	CN 2001-821657		20011116
JP 2004536278	T2	20041202	JP 2002-548165		20011116
US 2004018519	A1	20040129	US 2003-416915		20030516
PRIORITY APPLN. INFO.:			US 2000-252452P	P	20001120
			WO 2001-US43424	W	20011116

AB The invention provides for the detection and quantification of PSMA, PSMA', and other prostatic markers in serum samples as well as in other types of samples for use in differentiating prostate cancer, benign prostatic hyperplasia, and neg. diagnoses. The diagnostic detection of nucleic acids, such as mRNAs, which encode prostatic markers in cell lysates and other sample sources is also provided. In addition to the **multiplexed** detection/quantification of these protein- and nucleic acid-based markers, the invention also includes **biochips**, kits and integrated systems.

L1 ANSWER 17 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:428787 CAPLUS
DOCUMENT NUMBER: 136:398144
TITLE: Devices and methods for **biochip**

multiplexing

INVENTOR(S): Terbrueggen, Robert
PATENT ASSIGNEE(S): Clinical Micro Sensors, Inc., USA
SOURCE: PCT Int. Appl., 186 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002043864	A2	20020606	WO 2001-US44364	20011105
WO 2002043864	A3	20020801		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
WO 2001054813	A2	20010802	WO 2001-US1150	20010111
WO 2001054813	A3	20020404		
WO 2001054813	C1	20020711		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 2002177135	A1	20021128	US 2001-904175	20010711
CA 2427669	AA	20020606	CA 2001-2427669	20011105
AU 2002039354	A5	20020611	AU 2002-39354	20011105
EP 1331999	A2	20030806	EP 2001-987105	20011105
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004515231	T2	20040527	JP 2002-545830	20011105
US 2003175947	A1	20030918	US 2002-199948	20020719
US 2004053290	A1	20040318	US 2003-412660	20030411

PRIORITY APPLN. INFO.:

US 2000-145840P	P	20001103
US 2001-760384	A	20010111
WO 2001-US1150	W	20010111
US 2001-904175	A	20010711
US 1999-145840P	P	19990727
US 2000-175539P	P	20000111
US 2000-245840P	P	20001103
US 2001-993342	A1	20011105
WO 2001-US44364	W	20011105
US 2002-193712	B1	20020711

AB The invention concerns devices that allow for simultaneous multiple biochip anal. In particular, the devices are configured to hold multiple cartridges comprising biochips comprising arrays such as nucleic acid arrays, and allow for high throughput anal. of samples. Diagrams describing the apparatus assembly and operation are given.

L1 ANSWER 18 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:213125 CAPLUS
DOCUMENT NUMBER: 137:135648
TITLE: Accessing Single Nucleotide Polymorphisms in Genomic DNA by Direct Multiplex Polymerase Chain Reaction Amplification on Oligonucleotide Microarrays
AUTHOR(S): Huber, Martin; Muendlein, Axel; Dornstauder, Eva; Schneeberger, Christian; Tempfer, Clemens B.; Mueller, Manfred W.; Schmidt, Wolfgang M.

CORPORATE SOURCE: VBC-GENOMICS Bioscience Research GmbH, Vienna, 1030, Austria
SOURCE: Analytical Biochemistry (2002), 303(1), 25-33
CODEN: ANBCA2; ISSN: 0003-2697
PUBLISHER: Elsevier Science
DOCUMENT TYPE: Journal
LANGUAGE: English
AB This study introduces a DNA microarray-based genotyping system for accessing single nucleotide polymorphisms (SNPs) directly from a genomic DNA sample. The described one-step approach combines multiplex amplification and allele-specific solid-phase PCR into an on-chip reaction platform. The multiplex amplification of genomic DNA and the genotyping reaction are both performed directly on the microarray in a single reaction. Oligonucleotides that interrogate single nucleotide positions within multiple genomic regions of interest are covalently tethered to a glass chip, allowing quick anal. of reaction products by fluorescence scanning. Due to a fourfold SNP detection approach employing simultaneous probing of sense and antisense strand information, genotypes can be automatically assigned and validated using a simple computer algorithm. We used the described procedure for parallel genotyping of 10 different polymorphisms in a single reaction and successfully analyzed more than 100 human DNA samples. More than 99% of genotype data were in agreement with data obtained in control expts. with allele-specific oligonucleotide hybridization and capillary sequencing. Our results suggest that this approach might constitute a powerful tool for the anal. of genetic variation.
REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 19 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:112067 CAPLUS
DOCUMENT NUMBER: 136:304707
TITLE: Detection of Bacillus anthracis by **multiplex** PCR on oligonucleotide **biochip**
AUTHOR(S): Gryadunov, D. A.; Mikhailovich, V. M.; Noskov, A. N.; Lapa, S. A.; Sobolev, A. Yu.; Pan'kov, S. V.; Rubina, A. Yu.; Zasedatelev, A. S.; Mirzabekov, A. D.
CORPORATE SOURCE: Inst. Mol. Biol. im. V. A. Engel'gardta, Ross. Akad. Nauk, Moscow, Russia
SOURCE: Doklady Akademii Nauk (2001), 381(2), 265-267
CODEN: DAKNEQ; ISSN: 0869-5652
PUBLISHER: MAIK Nauka
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB A method of multiplex PCR using a miniature oligonucleotide microchip is described. It allows to identify Bacillus anthracis from closely related species and can be used for diagnostic anal.

L1 ANSWER 20 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:720014 CAPLUS
DOCUMENT NUMBER: 135:300569
TITLE: Antigen detection using microelectrode array microchips
AUTHOR(S): Dill, K.; Montgomery, D. D.; Wang, W.; Tsai, J. C.
CORPORATE SOURCE: Harbour Point Tech. Center, Combmatrix Corporation, Mukilteo, WA, 98275, USA
SOURCE: Analytica Chimica Acta (2001), 444(1), 69-78
CODEN: ACACAM; ISSN: 0003-2670
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Procedures and results are described for multiplexed immunochem. assays using semiconductor microchips. The microchips used here are miniaturized arrays of individually addressable microelectrodes controlled by active CMOS circuitry. Electrode densities exceed 1000 per cm2. The array chips are coated with a porous reaction layer material to provide a 'bio-friendly' milieu overlaying the electrode array. Biotin is linked covalently to regions within the porous reaction layer proximate to selected microelectrodes. Covalent linkage is accomplished using reagents

that are generated in situ by the microelectrodes. The covalent linkage of biotin within the porous reaction layer allowed traditional streptavidin (SA)-based immunoassay formats to be used on the biochips. **Biochips** were used to develop **multiplexed** assay formats for biol. entities over a wide size range - from small organic mols. to cells. Sandwich immunoassays were used for larger entities and competitive immunoassays for smaller mols. Detection of analytes was accomplished using fluorophore-tagged antibodies and epifluorescent microscopy. Results from a broad range of analytes are presented.

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 21 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:713619 CAPLUS
DOCUMENT NUMBER: 135:268134
TITLE: Methods of using quantum dots as coded reporters in bead-based multiplex detection of nucleic acid amplification products
INVENTOR(S): Bruchez, Marcel P., Jr.; Lai, Jennifer H.; Phillips, Vince E.; Watson, Andrew R.; Wong, Edith Y.
PATENT ASSIGNEE(S): Quantum Dot Corp., USA
SOURCE: PCT Int. Appl., 89 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001071043	A1	20010927	WO 2001-US9242	20010322
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 2001050937	A5	20011003	AU 2001-50937	20010322
US 2002034747	A1	20020321	US 2001-815585	20010322
US 6500622	B2	20021231		
US 2002039732	A1	20020404	US 2001-815510	20010322
US 6653080	B2	20031125		
US 2003165951	A1	20030904	US 2002-331285	20021230
US 2004171039	A1	20040902	US 2003-716063	20031117

PRIORITY APPLN. INFO.:

US 2000-191227P	P	20000322
US 2000-237000P	P	20000929
US 2001-815510	A1	20010322
US 2001-815585	A1	20010322
WO 2001-US9242	W	20010322

AB Methods, compns. and articles of manufacture for assaying a sample for a target polynucleotide and/or an amplification product therefrom are provided. The methods comprise contacting a sample suspected of containing the target polynucleotide with a polynucleotide that can bind specifically thereto; this polynucleotide is conjugated to a substrate, preferably an encoded bead conjugate. An amplification reaction can first be used to produce the amplification product from the target polynucleotide so that it can be used to indirectly assay for the target polynucleotide. An amplification product detection complex and method of forming the same are also provided. The methods are particularly useful in multiplex settings where a plurality of targets are present. Amplification product assay complexes and amplification product assay arrays are also provided, along with methods of forming the same. Kits comprising reagents for performing such methods are also provided.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 22 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:564909 CAPLUS
DOCUMENT NUMBER: 135:119230
TITLE: Devices and methods for **biochip multiplexing**
INVENTOR(S): Duong, Hau H.
PATENT ASSIGNEE(S): Clinical Micro Sensors, Inc., USA
SOURCE: PCT Int. Appl., 137 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001054813	A2	20010802	WO 2001-US1150	20010111
WO 2001054813	A3	20020404		
WO 2001054813	C1	20020711		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2396893	AA	20010802	CA 2001-2396893	20010111
AU 2001029436	A5	20010807	AU 2001-29436	20010111
AU 772250	B2	20040422		
EP 1246699	A2	20021009	EP 2001-946805	20010111
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004530860	T2	20041007	JP 2001-554788	20010111
US 2002177135	A1	20021128	US 2001-904175	20010711
CA 2427669	AA	20020606	CA 2001-2427669	20011105
WO 2002043864	A2	20020606	WO 2001-US44364	20011105
WO 2002043864	A3	20020801		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2002039354	A5	20020611	AU 2002-39354	20011105
EP 1331999	A2	20030806	EP 2001-987105	20011105
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004515231	T2	20040527	JP 2002-545830	20011105
US 2003175947	A1	20030918	US 2002-199948	20020719
US 2004053290	A1	20040318	US 2003-412660	20030411

PRIORITY APPLN. INFO.:		
US 2000-175539P	P	20000111
US 2000-145840P	P	20001103
US 1999-145840P	P	19990727
US 2000-245840P	P	20001103
US 2001-760384	A1	20010111
WO 2001-US1150	W	20010111
US 2001-904175	A	20010711
US 2001-993342	A1	20011105
WO 2001-US44364	W	20011105
US 2002-193712	B1	20020711

AB The invention is directed to devices that allow for simultaneous multiple biochip anal. In particular, the devices are configured to hold multiple cartridges comprising biochips comprising arrays such as nucleic acid arrays, and allow for high throughput anal. of samples. The biochip

cartridge comprises: (a) a reaction chamber comprising : (i) a substrate comprising an array of electrodes, each comprising:(A) a self-assembled monolayer; and(B) a capture binding ligand; (ii) an inlet port for the introduction of reagents; and (b) interconnects to allow the elec. connection of said electrodes to a processor.

L1 ANSWER 23 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:545909 CAPLUS
DOCUMENT NUMBER: 135:104675
TITLE: Sensitive, multiplexed diagnostic assays for protein analysis using analyte-specific protein-nucleic acid tag fusions
INVENTOR(S): Wagner, Richard
PATENT ASSIGNEE(S): Phylos, Inc., USA
SOURCE: PCT Int. Appl., 17 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
WO 2001053539	A1	20010726	WO 2001-US291		20010104
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW					
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG					
CA 2396810	AA	20010726	CA 2001-2396810		20010104
EP 1250463	A1	20021023	EP 2001-942678		20010104
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR					
JP 2003520050	T2	20030702	JP 2001-553398		20010104
AU 783689	B2	20051124	AU 2001-29279		20010104
PRIORITY APPLN. INFO.:			US 2000-177873P	P	20000124
			WO 2001-US291	W	20010104

AB Disclosed herein are methods for detecting multiple compds. in a sample, involving: (a) contacting the sample with a mixture of binding reagents, the binding reagents being nucleic acid-protein fusions, each having (i) a protein portion which is known to specifically bind to one of the compds. and (ii) a nucleic acid portion which encodes the protein portion and which includes a unique identification tag; (b) allowing the protein portions of the binding reagents and the compds. to form complexes; (c) capturing the binding reagent-compound complexes; (d) amplifying the nucleic acid portions of the complexed binding reagents; and (e) detecting the unique identification tag of each of the amplified nucleic acids, thereby detecting the corresponding compds. in the sample. Also disclosed herein are kits for carrying out such methods.
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 24 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:285226 CAPLUS
DOCUMENT NUMBER: 134:290856
TITLE: Evaluation of Three-Dimensional Microchannel Glass **Biochips** for **Multiplexed** Nucleic Acid Fluorescence Hybridization Assays
AUTHOR(S): Benoit, Vincent; Steel, Adam; Torres, Matt; Yu, Yong-Yi; Yang, Hongjun; Cooper, Jonathan
CORPORATE SOURCE: Gene Logic Inc., Gaithersburg, MD, 20878, USA
SOURCE: Analytical Chemistry (2001), 73(11), 2412-2420
CODEN: ANCHAM; ISSN: 0003-2700
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal

LANGUAGE: English

AB Three-dimensional, flow-through microchannel glass substrates have a potential for enhanced performance, including increased sensitivity and dynamic range, over traditional planar substrates used in medium-d. microarray platforms. This paper presents a methodol. for the implementation of multiplexed nucleic acid hybridization fluorescence assays on microchannel glass substrates. Fluorescence detection was achieved, in a first instance, using conventional low-magnification microscope objective lenses, as imaging optics whose depth-of-field characteristics match the thickness of the microchannel glass chip. The optical properties of microchannel glass were shown, through exptl. results and simulations, to be compatible with the quant. detection of heterogeneous hybridization events taking place along the microchannel sidewalls, with detection limits for oligonucleotide targets in the low-attomole range.

REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 25 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000:756901 CAPLUS

DOCUMENT NUMBER: 133:319258

TITLE: Combinatorial chemical library supports having indicia at coding positions and their use in multiplexed analysis

INVENTOR(S): Ravkin, Ilya; Goldbard, Simon; Hyun, William C.; Zarowitz, Michael A.

PATENT ASSIGNEE(S): Virtual Arrays, Inc., USA

SOURCE: PCT Int. Appl., 58 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 11

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000063419	A1	20001026	WO 2000-US10181	20000414
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2366093	AA	20001026	CA 2000-2366093	20000414
EP 1175505	A1	20020130	EP 2000-922243	20000414
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
GB 2364704	A1	20020206	GB 2001-27404	20000414
GB 2364704	B2	20040714		
JP 2002542463	T2	20021210	JP 2000-612496	20000414
US 2005009113	A1	20050113	US 2004-842954	20040510

PRIORITY APPLN. INFO.:

US 1999-129664P	P	19990415
US 1999-170947P	P	19991215
WO 2000-US10181	W	20000414
WO 2001-US51413	A	20011018
US 2001-348027P	P	20011026
WO 2002-US33350	A	20021018
US 2002-421280P	P	20021025
US 2002-282940	A2	20021028
WO 2002-US34699	A	20021028
US 2003-469508P	P	20030508
US 2003-503406P	P	20030915
US 2003-523747P	P	20031119
US 2004-537454P	P	20040115

AB A method is disclosed for multiplexed detection and quantification of analytes by reacting them with probe mols. attached to specific and identifiable carriers. These carriers can be of different size, shape,

color, and composition Different probe mols. are attached to different types of carriers prior to anal. After the reaction takes place, the carriers can be automatically analyzed. This invention obviates cumbersome instruments used for the deposition of probe mols. in geometrically defined arrays. In the present invention the analytes are identified by their association with the defined carrier, and not (or not only) by their position. Moreover, the use of carriers provides a more homogeneous and reproducible representation for probe mols. and reaction products than two-dimensional imprinted arrays or DNA chips.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 26 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2000:742308 CAPLUS
DOCUMENT NUMBER: 133:318243
TITLE: Multiplex amplification and separation of nucleic acid sequences using ligation-dependent strand displacement amplification and bioelectronic chip technology
INVENTOR(S): Carrino, John J.; Gerrue, Louis O.; Diver, Jonathan M.
PATENT ASSIGNEE(S): Nanogen/Becton Dickinson Partnership, USA
SOURCE: PCT Int. Appl., 144 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000061818	A1	20001019	WO 2000-US9843	20000411
W: CA, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6238868	B1	20010529	US 1999-290577	19990412
US 2002068334	A1	20020606	US 2001-865807	20010525
US 6864071	B2	20050308		
US 2005136441	A1	20050623	US 2004-942565	20040915
PRIORITY APPLN. INFO.:			US 1999-290577 A	19990412
			US 2001-865807 A1	20010525

AB The invention relates to devices, methods, and compns. of matter for the multiplex amplification and anal. of nucleic acid sequences in a sample using ligation-dependent strand displacement amplification in combination with bioelectronic microchip technol. Thus, the described device and strand displacement amplification was used to identify different bacteria on the basis of their 16S rRNA. Addnl., multiple patient samples were simultaneously analyzed for the presence of the Factor V Leiden (R506Q) gene mutation using allele-specific strand-displacement amplification (SDA) or anchored SDA. Addnl. exonuclease/ligase-SDA was employed to detect various bacterial genes, e.g., the eaeA gene of E. coli O157:H7.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 27 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2000:742307 CAPLUS
DOCUMENT NUMBER: 133:318242
TITLE: Multiplex asymmetric amplification and separation of nucleic acid sequences on a bioelectronic microchip
INVENTOR(S): Edman, Carl F.; Nerenburg, Michael I.; Westin, Lorelei P.; Carrino, John J.
PATENT ASSIGNEE(S): Nanogen/Becton Dickinson Partnership, USA
SOURCE: PCT Int. Appl., 142 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

WO 2000061817 A1 20001019 WO 2000-US9742 20000412
W: CA, JP, US
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
US 6309833 B1 20011030 US 1999-290452 19990412
US 2003049629 A1 20030313 US 2001-954594 20010917
US 6589742 B2 20030708
PRIORITY APPLN. INFO.: US 1999-290452 A 19990412

AB A method of improving amplification of nucleic acids using a strand displacement amplification method is provided wherein nucleic acids are electronically addressed to electronically addressable capture sites of a microchip. One of the primer pairs is in molar excess relative to the other. The primers may be solution-based or immobilized on the capture sites of the microchip. This same system may be used for further processing, i.e., multiplex assaying/detection of the target nucleic acids. Thus, the described device and strand displacement amplification was used to identify different bacteria on the basis of their 16S rRNA. Addnl., multiple patient samples were simultaneously analyzed for the presence of the Factor V Leiden (R506Q) gene mutation using allele-specific strand-displacement amplification (SDA) or anchored SDA. The asym. amplification process is described.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 28 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2000:742306 CAPLUS
DOCUMENT NUMBER: 133:306329
TITLE: NASBA and multiplex assay/detection of nucleic acids using bioelectronic microchips
INVENTOR(S): Edman, Carl F.; Nerenburg, Michael I.
PATENT ASSIGNEE(S): Nanogen/Becton Dickinson Partnership, USA
SOURCE: PCT Int. Appl., 136 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000061816	A1	20001019	WO 2000-US9700	20000411
WO 2000061816	C2	20020711		
W: CA, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6326173	B1	20011204	US 1999-290338	19990412
CA 2365996	AA	20001019	CA 2000-2365996	20000411
EP 1171635	A1	20020116	EP 2000-922077	20000411
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 2003049632	A1	20030313	US 2001-974685	20011009

PRIORITY APPLN. INFO.: US 1999-290338 A 19990412
WO 2000-US9700 W 20000411

AB A method of improving amplification of nucleic acids using a nucleic acid sequence-based amplification (NASBA) method is provided wherein target nucleic acids and NASBA primers are electronically addressed to electronically addressable capture sites of a microchip. This improvement uses electronically induced hybridization of the target nucleic acids to the primers. The primers may be solution-based or immobilized on the capture sites of the microchip. This same system may be used for further processing, i.e., multiplex assaying/detection of the target nucleic acids. Thus, the described device and method was used to identify different bacteria on the basis of their 16S rRNA. Addnl., multiple patient samples were simultaneously analyzed for the presence of the Factor V Leiden (R506Q) gene mutation using allele-specific strand-displacement amplification (SDA) or anchored SDA. Addnl. examples employing exonuclease/ligase-dependent SDA for detection of genes of various bacteria (e.g., stx1 of STEC or Shigella dysenteriae) is described.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 29 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2000:655943 CAPLUS
DOCUMENT NUMBER: 134:14866
TITLE: Miniaturization of the luminescent oxygen channeling immunoassay (LOCI) for use in **multiplex** array formats and other **biochips**
AUTHOR(S): Dafforn, Alan; Kirakossian, Hrair; Lao, Kaiqin
CORPORATE SOURCE: Advanced Diagnostics Group, Dade Behring Inc., San Jose, CA, 95161-9013, USA
SOURCE: Clinical Chemistry (Washington, D. C.) (2000), 46(9), 1495-1497
CODEN: CLCHAU; ISSN: 0009-9147
PUBLISHER: American Association for Clinical Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
AB LOCI (luminescent oxygen channeling immunoassay) offers several advantages for signal detection from arrays and other miniaturized devices. The assay retains ample sensitivity for analytes of likely interest in such devices. An oligonucleotide could be detected at -1 pmol/L (6000 mols.), the protein TSH could be detected at 2 pmol/L, and a DNA amplicon could be detected even at a 1:10000 dilution In addition, arrays large enough for clin. diagnostic purposes should be feasible (500 or more measurements/sample). Homogeneous assay arrays should also be much simpler to manufacture than many types of arrays because no surface chemical must be performed on a chip. The absence of surface chemical or absorption should also give greater reproducibility compared with spotting technologies and simplify quality control. The use of generic reagents also simplifies preparation of large arrays. Finally, homogeneous assays offer relatively fast kinetics and simplicity of protocol.
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 30 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2000:343386 CAPLUS
DOCUMENT NUMBER: 133:145572
TITLE: A fully **multiplexed** CMOS **biochip** for DNA analysis
AUTHOR(S): Swanson, P.; Gelbart, R.; Atlas, E.; Yang, L.; Grogan, T.; Butler, W. F.; Ackley, D. E.; Sheldon, E.
CORPORATE SOURCE: Nanogen Inc., San Diego, CA, 92121, USA
SOURCE: Sensors and Actuators, B: Chemical (2000), B64(1-3), 22-30
CODEN: SABCEB; ISSN: 0925-4005
PUBLISHER: Elsevier Science S.A.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB We have developed a technol. that brings together electronically active semiconductor chips with biomedical assays or tests. By creating an array of electrodes that can be individually addressed, it is possible to manipulate DNA and other biol. mols. to perform bioassays in a number of different formats. Recently, we have fabricated and tested chips that support independent, electronically driven reactions at 400 or more sites. To control these sites, we have utilized a CMOS architecture which incorporates row and column addressing, and active current control and self-test at each site. We have developed an electronically driven hybridization assay for an application in genetic identification that takes advantage of the large number of available assay locations. To perform the assay, sample DNA is electrophoretically propelled and hybridized to an immobilized DNA probe on the chip and to a fluorophore-labeled DNA probe in solution Detection of a pos. assay result depends on light emitted by the fluorophore-labeled probe in a hybridization complex that also contains the immobilized capture probe and the sample DNA. The fluorophore is excited by light from a diode laser, which is coupled into the chip by a unique cartridge design that incorporates a polymer waveguide for dark field illumination. The light emitted by fluorophores is detected by a CCD camera. The present generation of chips will

potentially enable a wide range of applications including genetic identification tests, detection of bacteria and other infectious agents, assays for genetic diseases, examination of the products of many genes and screening for potential drugs.

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 31 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000:252966 CAPLUS
DOCUMENT NUMBER: 132:289566
TITLE: Methods and microelectronic matrix devices for multiplex molecular biological reactions and assays
INVENTOR(S): Sosnowski, Ronald G.; Butler, William F.; Tu, Eugene; Nerenberg, Michael I.; Heller, Michael J.; Edman, Carl F.
PATENT ASSIGNEE(S): Nanogen, Inc., USA
SOURCE: U.S., 74 pp., Cont.-in-part of U.S. 5,849,486. CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 44
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6051380	A	20000418	US 1997-986065	19971205
US 5605662	A	19970225	US 1993-146504	19931101
US 6017696	A	20000125	US 1994-271882	19940707
US 5632957	A	19970527	US 1994-304657	19940909
CA 2477138	C	19950511	CA 1994-2477138	19941026
CA 2477138	AA	19950511		
CA 2504343	AA	19950511	CA 1994-2504343	19941026
EP 1120155	A2	20010801	EP 2001-106838	19941026
EP 1120155	A3	20011024		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
EP 1120156	A2	20010801	EP 2001-106840	19941026
EP 1120156	A3	20011024		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
EP 1120469	A2	20010801	EP 2001-106841	19941026
EP 1120469	A3	20011024		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
EP 1120157	A2	20010801	EP 2001-106846	19941026
EP 1120157	A3	20011024		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE				
NZ 500373	A	20010831	NZ 1994-500373	19941026
US 5849486	A	19981215	US 1995-534454	19950927
AU 9885227	A1	19981210	AU 1998-85227	19980917
AU 733501	B2	20010517		
AU 9885228	A1	19981210	AU 1998-85228	19980917
AU 733500	B2	20010517		
CA 2312568	AA	19990617	CA 1998-2312568	19981201
WO 9929711	A1	19990617	WO 1998-US25475	19981201
W: AU, BR, CA, CN, JP, KR				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9917069	A1	19990628	AU 1999-17069	19981201
AU 738493	B2	20010920		
EP 1036085	A1	20000920	EP 1998-961847	19981201
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
BR 9814257	A	20001003	BR 1998-14257	19981201
JP 2001525193	T2	20011211	JP 2000-524303	19981201
US 2001014449	A1	20010816	US 1999-291129	19990412
US 6468742	B2	20021022		
US 6306348	B1	20011023	US 1999-354931	19990715
US 6518022	B1	20030211	US 1999-444539	19991122
AU 777515	B2	20041021	AU 2001-61873	20010817
US 2003190632	A1	20031009	US 2002-170172	20020611
US 2003073122	A1	20030417	US 2002-245206	20020916

PRIORITY APPLN. INFO.:

US 1993-146504	A2	19931101
US 1994-271882	A2	19940707
US 1994-304657	A2	19940909
US 1995-534454	A2	19950927
US 1996-708262	A2	19960906
AU 1994-81257	A3	19941026
CA 1994-2175483	A3	19941026
CA 1994-2477138	A3	19941026
EP 1995-900430	A3	19941026
NZ 1994-330036	A1	19941026
US 1996-725976	A1	19961004
US 1997-859644	A1	19970520
US 1997-986065	A	19971205
US 1998-30156	A2	19980225
AU 1998-85228	A3	19980917
WO 1998-US25475	W	19981201
US 1999-291129	A1	19990412
US 1999-444539	A1	19991122

AB A self-addressable, self-assembling microelectronic device is designed and fabricated to actively carry out and control multi-step and multiplex mol. biol. reactions in microscopic formats. These reactions include nucleic acid hybridizations, antibody/antigen reactions, diagnostics, and biopolymer synthesis. The device can be fabricated using both microlithog. and micro-machining techniques. The device can electronically control the transport and attachment of specific binding entities to specific microlocations. The specific binding entities include mol. biol. mols. such as nucleic acids and polypeptides. The device can subsequently control the transport and reaction of analytes or reactants at the addressed specific microlocations. The device is able to concentrate analytes and reactants, remove non-specifically bound mols., provide stringency control for DNA hybridization reactions, and improve the detection of analytes. The device can be electronically replicated. Devices were fabricated and used in hybridization reactions.

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 32 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1999:736991 CAPLUS

DOCUMENT NUMBER: 131:347469

TITLE: Multiplex DNA amplification using chimeric primers containing constant and hybridizing segments

INVENTOR(S): Wang, David G.; Lander, Eric S.

PATENT ASSIGNEE(S): Whitehead Institute for Biomedical Research, USA

SOURCE: PCT Int. Appl., 56 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9958721	A1	19991118	WO 1999-US10417	19990512
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9939846	A1	19991129	AU 1999-39846	19990512

PRIORITY APPLN. INFO.:

US 1998-76575	A1	19980512
WO 1999-US10417	W	19990512

AB Claimed is a method of simultaneously amplifying a large number of target sequences from a template nucleic acid using chimeric primers containing both hybridization and constant segments. The hybridization segment hybridizes to the template so that polymerase extension can occur, while the constant

segment does not hybridize with the template. As products from earlier cycles are used as template, however, the constant segment also hybridizes to the template, normalizing hybridization kinetics across the different target sequences being simultaneously amplified, and preventing under- or overrepresentation of loci at the end of the reaction. Further primer extension with labeled primers can be used to incorporate labels into the amplified products.
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 33 OF 33 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:674144 CAPLUS
DOCUMENT NUMBER: 132:32838
TITLE: High-throughput microarray-based enzyme-linked immunosorbent assay (ELISA)
AUTHOR(S): Mendoza, L. G.; McQuary, P.; Mongan, A.; Gangadharan, R.; Brignac, S.; Eggers, M.
CORPORATE SOURCE: Genometrix, The Woodlands, TX, 77381, USA
SOURCE: BioTechniques (1999), 27(4), 778, 780, 782-786, 788
CODEN: BTNQDO; ISSN: 0736-6205
PUBLISHER: Eaton Publishing Co.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A new generation **biochip** is described as capable of supporting high-throughput (HT), **multiplexed** enzyme-linked immunosorbent assays (ELISAs). These biochips consist of an optically flat, glass plate containing 96 wells formed by an enclosing hydrophobic Teflon mask. The footprint dimensions of each well and the plate precisely match those of a standard microplate. Each well contains four identical 36-element arrays (144 elements per well) comprising 8 different antigens and a marker protein. Arrays are formed by a custom, continuous flow, capillary-based print head attached to a precise, high-speed, X-Y-Z robot. The array printing capacity of a single robot exceeds 20,000 arrays per day. Arrays are quant. imaged using a custom, high-resolution, scanning charge-coupled device (CCD) detector with an imaging throughput of 96 arrays every 30 s. Using this new process, arrayed antigens were individually and collectively detected using standard ELISA techniques. Expts. demonstrate that specific multiplex detection of protein antigens arrayed on a glass substrate is feasible. Because of the open microarray architecture, the 96-well microarray format is compatible with automated robotic systems and supports a low-cost, highly parallel assay format. Future applications of this new high-throughput screening (HTS) format include direct cellular protein expression profiling, multiplexed assays for detection of infectious agents and cancer diagnostics.
REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> FIL STNGUIDE

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